

EXPRESS MAILING LABEL NO. EL684299645US
Docket No.: 102619-186
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Farhad Zarinetchi, et al.

Application No.: Not Yet Assigned
(Parent: 09/347,322-3693)

Grp. Art Unit: Not Yet Assigned
(Parent: 3762)

Filed: Herewith

Examiner: Not Yet Assigned
(Parent: K. Schaetzle)

For: MAGNETIC SHIELD FOR PRIMARY COIL
OF TRANSCUTANEOUS ENERGY
TRANSFER DEVICE

PRELIMINARY AMENDMENT

Box Patent Application
Commissioner for Patents
Washington, DC 20231

Dear Sir:

Before examination of this patent application, please amend the application as follows:

In the Specification

At page 1, lines 3 to 4, please replace the title with the following:

CLEAN COPY OF REPLACEMENT TITLE

CUSHIONED PRIMARY COIL FOR TRANSCUTANEOUS ENERGY TRANSFER

MARKED UP COPY OF REPLACEMENT TITLE

CUSHIONED [MAGNETIC SHIELD FOR] PRIMARY COIL [OF] FOR
TRANSCUTANEOUS ENERGY TRANSFER [DEVICE]

At page 1, following the heading "RELATED APPLICATIONS," please replace the first paragraph with the following:

CLEAN COPY OF REPLACEMENT PARAGRAPH

This application is a continuation application of U.S. Patent Application 09/347,322, filed July 2, 1999, entitled "MAGNETIC SHIELD FOR PRIMARY COIL OF TRANSCUTANEOUS ENERGY TRANSFER DEVICE," and naming as inventors Farhad Zarinetchi and Steven J. Keville, now currently pending, which is a continuation-in-part of U.S. Patent Application 09/110,608 filed July 6, 1998 entitled "MAGNETIC SHIELD FOR PRIMARY COIL OF TRANSCUTANEOUS ENERGY TRANSFER DEVICE," and naming as inventors Fred Zarinetchi and Robert M. Hart, now currently pending.

MARKED UP COPY OF REPLACEMENT PARAGRAPH

This application is a continuation application of U.S. Patent Application 09/347,322, filed July 2, 1999, entitled "MAGNETIC SHIELD FOR PRIMARY COIL OF TRANSCUTANEOUS ENERGY TRANSFER DEVICE," and naming as inventors Farhad Zarinetchi and Steven J. Keville, now currently pending, which [This appliction] is a continuation-in-part of U.S. Patent Application 09/110,608 filed July 6, 1998 entitled "MAGNETIC SHIELD FOR PRIMARY COIL OF TRANSCUTANEOUS ENERGY TRANSFER DEVICE," and naming as inventors Fred Zarinetchi and Robert M. Hart, now currently pending.

In the Claims

Pursuant to 37 CFR 1.121(c)(3), Applicants amend the claims pending in this application

by providing a clean version of the entire set of claims below. As the amendments include only the addition of new claims and the cancellation of pending claims, no marked up version of the amendment is provided.

CLEAN COPY OF ALL CLAIMS

31. A transcutaneous energy transfer device comprising:
an external primary coil to which energy to be transferred is applied;
an implanted secondary coil configured to be inductively coupled to the primary coil and connected to apply energy to a subcutaneous utilization device; and
a compliant cushion disposed on a side of the primary coil facing the secondary coil;
wherein the cushion is releasably mated to the primary coil.
32. The device of claim 31, wherein the cushion is releasably mated to the primary coil by a hook and loop connector.
33. The device of claim 31, wherein the cushion is crenellated.
34. The device of claim 31, wherein the cushion is ventilated.
35. The device of claim 34, wherein the ventilated cushion is adapted to wick perspiration from a patient's skin.
36. The device of claim 34, wherein the cushion comprises an open cell foam layer.
37. The device of claim 34, wherein the cushion comprises a skin-compatible material adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.
38. The device of claim 36, wherein the cushion comprises a skin-compatible material bonded to the open cell foam layer and adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.
39. A transcutaneous energy transfer device comprising:
an external primary coil to which energy to be transferred is applied;

an implanted secondary coil configured to be inductively coupled to the primary coil and connected to apply energy to a subcutaneous utilization device; and

a compliant cushion disposed on a side of the primary coil facing the secondary coil; wherein the cushion is crenellated.

40. The device of claim 39, wherein the cushion comprises an open cell foam layer.

41. The device of claim 39, wherein the cushion comprises a skin-compatible material adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.

42. A transcutaneous energy transfer device comprising:

an external primary coil to which energy to be transferred is applied;

an implanted secondary coil configured to be inductively coupled to the primary coil and connected to apply energy to a subcutaneous utilization device; and

a compliant and ventilated cushion disposed on a side of the primary coil facing the secondary coil, the cushion comprising an open cell foam layer and a skin-compatible material bonded to the open cell foam layer and adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.

43. An apparatus for transcutaneous energy transfer to an implanted secondary coil comprising:

an external primary coil to which energy to be transferred is applied, the external primary coil having an implanted secondary coil facing side and an opposed side; and

a compliant cushion disposed on the implanted secondary coil facing side of the primary coil, wherein the cushion is releasably mated to the primary coil.

44. The device of claim 43, wherein the cushion is releasably mated to the primary coil by a hook and loop connector.

45. The device of claim 43, wherein the cushion is crenellated.

46. The device of claim 43, wherein the cushion is ventilated.

47. The device of claim 46, wherein the ventilated cushion is adapted to wick perspiration from a patient's skin.
48. The device of claim 46, wherein the cushion comprises an open cell foam layer.
49. The device of claim 46, wherein the cushion comprises a skin-compatible material adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.
50. The device of claim 48, wherein the cushion comprises a skin-compatible material bonded to the open cell foam layer and adapted to provide a ventilated, non-allergenic, non-irritating skin contacting surface.
51. The device of claim 43, further comprising a magnetic shield covering the opposed surface of the primary coil.
52. The apparatus of claim 51, wherein the shield is larger than the primary coil.
53. The apparatus of claim 52, wherein the primary coil has a selected shape and size, and wherein the shield is of substantially the same shape as the primary coil, but of greater size.
54. The apparatus of claim 53, wherein the primary coil has dimensions x_i in direction i , wherein the shield has a thickness t and wherein the dimensions of the shield in direction i is $X_i \geq x_i + 2t$.
55. The apparatus of claim 53, wherein the primary coil has a generally circular shape with a diameter d , and wherein the shield has a generally circular shape with a diameter D , where $D > d$.
56. The apparatus of claim 55, wherein the shield has a thickness t , and wherein $D \geq d + 2t$.
57. The apparatus of claim 55, wherein the shield is formed of a material having a magnetic permeability relative to free space (μ_r) and has a thickness (t), where $t \gg D/\mu_r$.

58. The apparatus of claim 51, wherein the shield is formed of a material having a magnetic permeability relative to free space (μ_r), has a major dimension X, and has a thickness (t) where $t \gg X/\mu_r$.

59. The apparatus of claim 51, wherein the shield has a plurality of ventilation perforations formed therein.

REMARKS

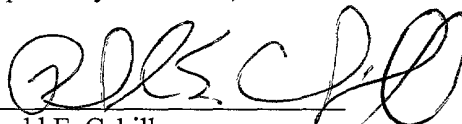
Applicants request entry of the amendments made above before examination of the present application.

The claims of this application recite a cushioned transcutaneous energy transfer primary coil. The claims include recitations similar to those found in allowable claims 52 through 56 of parent application Serial No. 09/347,322, however, unlike the claims of the parent, the independent claims of the present application do not expressly recite a magnetic shield disposed on a side of the primary coil opposite the patient. As none of the art cited in the parent application included the cushion characteristics claimed herein and in allowable claims 52 through 56 of the parent application, Applicants submit that the magnetic shield has no patentable significance for these claims.

For all of the foregoing reasons, Applicants submit that each of claims 31 to 59 are in condition for allowance, and respectfully request a notice of allowance for these claims. Applicants further request that the Examiner telephone the undersigned Attorney for Applicants in the event that such communication might expedite prosecution of this matter.

Dated: 12/31, 2001

Respectfully submitted,

By 

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